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**RESULTS FROM PHASE 1 TRIAL OF SINGLE AGENT XCYTRIN FOR THE
TREATMENT OF REFRACTORY CHRONIC LYMPHOCYTIC LEUKEMIA
INDICATE ANTI-TUMOR ACTIVITY**

**- Presentations at ASH Meeting Highlight Xcytrin Activity in Malignant
Lymphomas -**

San Diego and Sunnyvale, Calif. -- December 7, 2004 -- Pharmacyclics, Inc. (Nasdaq: PCYC) today announced the results of a Phase 1 clinical trial, which indicate that Xcytrin[®] (motexafin gadolinium) Injection has clinical activity when used as a single agent for the treatment of refractory chronic lymphocytic leukemia (CLL). These results along with four other abstracts discussing preclinical studies of Xcytrin in hematologic cancers were presented at the American Society of Hematology (ASH) 46th Annual Meeting and Exposition being held in San Diego, California, December 4-7.

"We were pleased to see evidence of anti-tumor activity in this group of heavily previously treated patients," said Thomas S. Lin, M.D., Ph.D., James Cancer Hospital, Ohio State University, and lead investigator on the Phase 1 trial. "These results and those from preclinical studies presented at ASH form the basis for additional studies with single agent Xcytrin in CLL, which are now underway."

The presentation, "Effects of the Redox Mediator Motexafin Gadolinium in a Pilot Phase 1 Trial in Refractory Chronic Lymphocytic Leukemia (CLL)," outlined results from a study evaluating Xcytrin for the treatment of recurrent CLL. Patients who had failed standard therapies for CLL were eligible to participate. This study included 13 patients who had failed an average of 4 prior treatment regimens, and 12 of these patients were

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refractory to treatment with fludarabine, a chemotherapy commonly used to treat CLL. Xcytrin was given daily for five days every three weeks until disease progression occurred. CLL cells were obtained from the peripheral blood of patients at various times during treatment to evaluate drug targeting in tumor cells. Researchers also examined Xcytrin's effects on tumor cells using various molecular studies.

Evidence of anti-tumor activity was observed in three patients and was indicated by a decrease in leukemic white blood cell count (WBC), decrease in lymph node size and/or a reduction in the size of an enlarged spleen. One responding patient experienced massive necrosis of large cell transformation, which occurs when CLL transforms into aggressive large cell lymphoma.

Xcytrin was found to accumulate in circulating tumor cells in patients after repeated doses and to activate Akt (protein kinase B) within the tumor cells of some patients, providing evidence of *in vivo* biologic activity of Xcytrin. Akt is a cell-signaling protein that is known to respond to cellular injury and, in particular, is a response to reactive oxygen species which are produced by Xcytrin.

The most common side effects observed during the trial were transient skin discoloration, grade 1 or 2 asthenia (weakness), bone pain and diarrhea. Based on the Phase 1 results, Pharmacyclics expanded its ongoing, multi-center Phase 2 trial, which is studying more prolonged dosing of Xcytrin in less heavily treated CLL patients.

"The demonstration of clinical activity with single agent Xcytrin in CLL patients with resistant disease is encouraging," said Richard A. Miller, M.D., president and chief executive officer of Pharmacyclics. "We are eager to extend our CLL studies based on the information gained from the Phase 1 trial, and an ongoing Phase 2 trial is evaluating an optimized dosing regimen in less heavily treated patients."

The four other abstracts at ASH highlighting the results from preclinical studies of Xcytrin in hematologic cancers were:

- "Motexafin Gadolinium Induces Apoptosis in Lymphoid Cell Lines and Demonstrates Enhanced Biological Activity with Akt Inhibitors." Study results suggest that Xcytrin may induce apoptosis of various lymphoid tumor cell lines and CLL cells.
- "Motexafin Gadolinium Enhances Rituximab-Induced Cytotoxicity Against B-cell Lymphoma Cell Lines." This study found that Xcytrin plus Rituxan[®] are synergistic *in vitro* due to increased apoptosis.
- "Motexafin Gadolinium, a Redox Mediator, Induces Apoptosis in Chronic Lymphocytic Leukemia Cells and is Additive or Synergistic with Fludarabine." Data indicated that Xcytrin is cytotoxic to CLL cells *in vitro* and this effect is synergistic or additive with fludarabine.
- "Sapphyrins Exhibit Tumor Selectivity and Efficacy in Animal Models of Hematologic Malignancies." Sapphyrins, a new class of expanded porphyrins based on Pharmacyclics' texaphyrin technology platform, were shown to induce apoptosis *in vitro* and to inhibit tumor growth in animal models of lymphoma. No myelosuppression was observed during this study.

About Chronic Lymphocytic Leukemia and Non-Hodgkin's Lymphoma

CLL and non-Hodgkin's lymphomas are malignancies of lymphoid cells. CLL primarily involves the bone marrow and blood. Tumor cell growth in these patients usually causes an elevation of peripheral blood white cell counts, and infiltration of bone marrow, lymph nodes, spleen and other organs. Patients with CLL are typically treated with combination chemotherapy and/or monoclonal antibodies. Relapsed CLL is not curable and patients eventually become resistant to standard therapies. Non-Hodgkin's lymphomas are often widely disseminated at disease presentation commonly involving multiple lymph node sites, the bone marrow, and other organs. Although they often respond to initial

chemotherapy, most patients with relapsed B-cell non-Hodgkin's lymphomas are not cured with existing treatments.

About Xcytrin

Pharmacyclics is developing Xcytrin as an anti-cancer agent with a novel mechanism of action that is designed to selectively concentrate in tumors and induce apoptosis (programmed cell death). Pharmacyclics has been granted Fast-Track status by the U.S. Food and Drug Administration (FDA) for Xcytrin for the treatment of brain metastases (cancer that has spread to the brain from another part of the body) in non-small cell lung cancer (NSCLC) patients. Xcytrin is currently being evaluated in a randomized Phase 3 clinical trial (the SMART trial) designed to compare the effects of whole brain radiation therapy (WBRT) alone to WBRT plus Xcytrin for the treatment of brain metastases in patients suffering from NSCLC. Xcytrin also is currently under investigation in several Phase 1 and Phase 2 clinical trials in various cancers evaluating its use as a single agent and in combination with chemotherapy and/or radiation therapy.

About Pharmacyclics

Pharmacyclics is a pharmaceutical company developing innovative products to treat cancer and atherosclerosis. The company's products are rationally designed, ring-shaped small molecules called texaphyrins that are designed to selectively target and disrupt the bioenergetic processes of diseased cells, such as cancer and atherosclerotic plaque. More information about the company, its technology, and products in development can be found on its website at www.pcy.com. Pharmacyclics®, Xcytrin® and the "pentadentate" logo® are registered trademarks of Pharmacyclics, Inc.

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NOTE: Other than statements of historical fact, the statements made in this press release about enrollment plans for our clinical trials, progress of and reports of results

from preclinical and clinical studies, clinical development plans and product development activities are forward-looking statements, as defined in the Private Securities Litigation Reform Act of 1995. The words “believe,” “will,” “continue,” “plan,” “expect,” “intend,” “anticipate,” variations of such words, and similar expressions also identify forward-looking statements, but their absence does not mean that the statement is not forward-looking. The forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that may cause actual results to differ materially from those in the forward-looking statements. Factors that could affect actual results include risks associated with the initiation, timing, design, enrollment and cost of clinical trials; the fact that data from preclinical studies and Phase 1 or Phase 2 clinical trials may not necessarily be indicative of future clinical trial results; our ability to establish successful partnerships and collaborations with third parties; the regulatory approval process in the United States and other countries; and future capital requirements. For further information about these risks and other factors that may affect the actual results achieved by Pharmacyclics, please see the company’s reports as filed with the U.S. Securities and Exchange Commission from time to time, including but not limited to its quarterly report on Form 10-Q for the quarter ended September 30, 2004. Forward-looking statements contained in this announcement are made as of this date, and we undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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